

ART. XXVIII.—*New or little-known Polyzoa.*

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(With Plate XXVIII.)

[Read 12th December, 1912.]

*Digenopora latissima*, n. sp. (Pl. XXVIII., Fig. 1).

Some few years ago, in the course of my examination of my slides of recent polyzoa, to compare with the fossil forms upon which I was working, I discovered a new species of *Digenopora* (a genus of the family of *Catenicellidae*, described by me in Part II. of "Further Descriptions of the Tertiary Polyzoa of Victoria"), which I found at Williamstown in 1869, and labelled it *Catenicella hastata*, overlooking the two sets of fenestrae. Ten years afterwards I found it living at Portland, and figured it in my paper to the Society on "Observations on Living Polyzoa," in 1881, and in that figure the two sets of fenestrae are indicated in one zoecium; but as the drawing was made specially to show only the pigment cells in the ectocyst, other details being omitted, their significance was again overlooked. Unfortunately, I have only the specimen mounted at Williamstown.

Zoecia oval; lateral processes very wide and flat, with numerous minute perforations or semi-globose elevations. Inner set of fenestrae, seven; pyriform, imperforate, in a scutiform area; outer set seven round elevations, submarginal; avicularia recessed, very small, on a level with the proximal lip of the thyrostome; thyrostome arched above, straight below with a very small irregular sinus in the lower margin. Ooecium globose, surmounted by a truncate conical process, a shallow oval depression surrounded by a raised border on each side on the upper part; an irregular reniform, slightly raised area on each side of the aperture; a small vertical oval opening in the centre; aperture very large and broad, lower margin, with a sharp sinus in the centre; five large oval perforations in a curve below and three small fenestrae underneath the sinus.

*Locality*.—Williamstown and Portland.

The colour of the zoarium when living is orange, but the zoecia are more or less spotted with purple or dark green pigment cells the greater or less abundance of which cause it to appear of various shades, from orange to purple and dark greenish grey.

The inner fenestrae are very slightly raised pyriform areas, not always well defined, and might be easily overlooked, but the scutiform area is always present, though the boundaries of individual fenestrae are often indiscernible. In the fossil *D. compta* they are conspicuous, as the ectocyst is not preserved, and they show as perforations. This species is the only living representative of the genus.

**Schizoporella baccata**, n. sp. (Pl. XXVIII., Figs. 2, 2a).

Zooecia undefined; surface granulose; with numerous subconical umbonate processes upon them; most of those near the margin of the zoarium and in the vicinity of the ooecia are furnished with avicularia which have straight ligulate mandibles, incurved at the distal end. Thyrostome large, arched above with a very broad curved sinus in the proximal margin. Ooecia globose, surface granulose, with a prominent conical umbo on the summit.

*Locality*.—Portland.

This is a very distinct species. The zoarium is orange coloured. The umbonate processes on the zooecia in the central portion of the zoarium bears no avicularia. The portion figured shows two perfect ooecia; on another portion of the margin of the zoarium are numerous ooecia in an incompleated state. Fig. 2a is an outline sketch of one.

**Schizoporella complanata**, n. sp. (Pl. XXVIII., Fig. 3).

Zoarium encrusting, zooecia oval, slightly ventricose. Thyrostome arched above with large rounded sinus in the proximal margin. Avicularian cells very large, Ooecia (?).

*Locality*.—Portland.

This species is characterised by the very large, almost flat, avicularian cells which cover the whole surface of the zooecia; at the distal end of them there is a ventricose process, with a variously denticulated margin, and within which is an acute mandible opening upwards. These large avicularian cells completely conceal the thyrostome in almost every case, and in the specimen figured it is seen in only one zooecium, in which the avicularium is absent.

**Mucronella ovifera**, n. sp. (Pl. XXVIII., Fig. 4).

Zoarium encrusting, zooecia undefined. Thyrostome suborbicular, with a broad ligula in the proximal margin. Avicularian cells ovoid, enormous, concealing almost the whole surface of the zooecia and bearing broad semi-elliptical avicularia.

*Locality*.—Portland.

The great distinguishing feature of this species is the enormous ovoid avicularian cells, which are sometimes "twinned." They cover nearly the whole surface, only a small portion of which can be seen, not sufficient to allow of the determination of the form. The distal basal margins of the avicularian cells overhang, and partially hide the proximal margins of some of the thyrostomes.

***Dimorphocella portmarina*, n. sp.** (Pl. XXVIII., Fig. 5).

Zoarium erect, flabellate, bilaminar, zoecia of two forms, subtle and angular, elongated; margins raised; surface granular; a row of pores round the margins. Thyrostome of smaller zoecia transversely sub-elliptical, with distal margins more curved than the proximal. Thyrostome of larger zoecia transversely elongated, proximal margin sometimes slightly incurved; an ovoid avicularium, with an acute triangular mandible, in the centre of the frontal wall in both kinds. The larger zoecia are more or less covered with mammillated nodules. Smaller zoecia 0.4 to 0.5 mm. long; 0.2 to 0.3 mm. wide. Larger zoecia 0.6 to 0.8 mm. long; 0.4 to 0.5 mm. wide.

*Locality*.—Portsea.

A single specimen, about 12 mm. in diameter. This species belongs to the genus *Dimorphocella*, which I, in Proc. Roy. Soc., Viet., Vol. XVI. n.s. Pt. 1. p. 340, established to include *D. pyriformis* and *D. triton*, McG. sp., found in our tertiary deposits.

The larger zoecia are present, either singly or in groups, upon both surfaces of the zoarium. All the zoecia are somewhat irregular in shape; in the smaller form the marginal row of pores is very regular, but in the larger form they are sometimes obscured by the mammillated nodules. The oval avicularium is constantly present in both forms, and in the portion illustrated one of them is reversed; the mandible pointing proximally instead of distally.

The following is a description of a very interesting form, from Disaster Bay, N.S.W., given to me by Mr. C. J. Gabriel.

***Selenariopsis*, n. gen.**

Zoarium dome-shaped. Zoecia quadrate in a single layer, and in radial series. Ooecia and avicularia present. No vibracula.

***Selenariopsis gabrieli*, n. sp.** (Pl. XXVIII., Figs. 6, 7, 8, 9, 10).

Zoarium a hemispherical dome, 5 mm. in diameter, 2.5 mm. high. Zoecia radially arranged in straight rows, quadrate or sub-quad-

rate in form, smooth with slightly raised and faintly sinuous margins. Thyrostomes oval, oocia somewhat larger than the zoocia, with a broad aperture below two smaller ones on the front wall. Avicularian cells quadrate, with a large, somewhat hour-glass shaped cavity. In the basal walls of the zoocia there is a large aperture, and there is also an aperture on the side walls of the zoocia.

*Locality*.—Disaster Bay, N.S.W. (C. J. Gabriel). A single specimen.

This is a very peculiar form; it is allied to *Selenaria*, and, in the radial and linear disposition of the zoocia, to *Lunulites*. It is a hemispherical dome (a small portion of which is broken away), composed of a single layer of zoocia arranged in radial lines, intercalating towards the margin. The thyrostomes are oval, but somewhat irregular in form. The oocia have a large, broadly oval aperture, with two smaller ones above. The basal walls have a large aperture, and there is also a smaller one in the side walls of the zoocia, through which probably living tissue, connecting the occupants of the adjoining zoocia, extended. It differs from *Selenaria* in having large avicularia, but not vibracula, and the oocia are on the same level as, and in series with, the zoocia, not exterior as in *Selenaria*, and by the zoocia being clearly defined on the basal surface.

Owing to the irregularity in the shape of the thyrostomes, and in the presence of the large aperture in the basal wall, and also the absence of the opercula of the thyrostomes and the mandibles of the avicularia, I am of opinion that the specimen exhibits the internal calcareous structure only, and that in life it had an ectocyst covering it entirely on both basal and upper surface in or upon which were the true thyrostomes with their opercula, also the mandibles of the avicularia, and that it covered the basal surface, and the large aperture in the basal wall of the zoocia, which is such a conspicuous feature, and which must have had a covering of some kind. Consequently, if living, or perfect, specimens be found, it will be necessary to modify the description, but there is no doubt that its structure abundantly justifies the establishment of a new genus for its reception.

***Parmularia obliqua*.** (Pl. XXVIII., Fig. 11).

A new form from West Australia.

The specimens of *Parmularia obliqua*, from the South Australian coast, to which I alluded in my "Observations on *Parmularia*

*obliqua* and a fossil species" (Proc. Roy. Soc., Vict., Vol. XXIII. (new series), p. 42), are almost always symmetrical in form; in the adult stage kidney shaped; in the younger forms they are either fan-shaped, with obtusely crenate edges, or are palmate.

I have lately received from Dr. Verco, of Adelaide, some specimens which he dredged in King George's Sound, West Australia, which are extremely asymmetrical and sometimes very much lobed, almost digitate in some cases. I have drawn several of the zoaria, half natural size, and it will be seen that there is great dissimilarity in the forms. I can detect no difference whatever in the zooecia from those in South Australian form, but as the zoarial character is so different, the specimens from West Australia must be considered a distinct variety, for which I propose the name "*Parmularia obliqua* var. *lobata*."

In the South Australian form the zoaria do not bear oecia until they arrive at the adult stage, and they are always on, or near the outer margin of the zoarium, but in West Australian form one specimen (marked "A") bears a few oecia in a curved transverse row in the central portion of the zoarium.

#### Variable forms of *Cellepora fossa* (Harwell sp.).

I think the variations in the form of the zoaria of this species worthy of notice, as from a casual examination of the specimens no one would think they belonged to the same species.

The form from which Prot. Haswell originally described the species, under the generic name of *Sphaeropora*, is "subspherical, slightly depressed."

Among the polyzoa, dredged by Dr. Verco in South Australian waters, sent to the late J. Dennant, and which I examined some years ago, there were two different forms. One was circular, thick, slightly raised in the centre, with rounded edges (bun-shaped), and on the under surface (chiefly in an annular area near the edge of the zoarium), there were numerous small conical pits, which descend to a considerable distance into the zoarium. These pits are formed by a small parasitic "actinid." The upper surface of the larger specimens was mammillated, but in the smaller ones was not. The zooecia on the edges of the zoarium have the umbonate process, which bears a semi-circular avicularium, produced into a blunt conical process. This form grows to a very large size, some being over an inch in diameter.

The other form was oval, or rather ellipsoidal, smooth, with a deep conical pit at one end.

Another very different form occurred in some material dredged off the coasts of New South Wales. It was spindle, or cigar-shaped, with a very irregular, nodular surface. It was 3 cm. long, 7 mm. wide at the truncated end; tapering to a rounded point at the other end. It had a single conical pit in the truncated end of a larger size than those in the other specimens, but evidently caused in a similar way.

EXPLANATION OF PLATE.

- Fig. 1.—*Digenopora latissima*,  $\times 30$ .  
 Fig. 1a.—Do. do. do., oocidium,  $\times 30$ .  
 Fig. 2.—*Schizoporella bacata*,  $\times 24$ .  
 Fig. 2a.—Do. do. incomplete oocidium,  $\times 24$ .  
 Fig. 3.—Do. *complanata*,  $\times 24$ .  
 Fig. 4.—*Mucronella ovifera*.  $\times 24$ .  
 Fig. 5.—*Dimorphocella portmarina*,  $\times 24$ .  
 Fig. 6.—*Selenariopsis gabrieli*, portion of zoarium,  $\times 5$ .  
 Fig. 7.—Do. do. section of zoarium,  $\times 20$ .  
 Fig. 8.—Do. do. basal surface of zooecia,  $\times 20$ .  
           “o” do. do. of oocidium,  $\times 30$ .  
 Fig. 9.—Do. do. upper surface of zooecia,  $\times 20$ .  
           “o” do. do. of oocidium,  $\times 20$ .  
 Fig. 10.—Do. do. upper surface of zooecia,  $\times 20$ .  
           “a” avicularian cell  
           “o” oocidium  
 Fig. 11.—*Parmularia obliqua* var. *lobata*  
           various forms of zoaria, nat. size.  
           “a” zoarium, with oocidia.
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